ABSTRACT

Improved extruded polypropylene sheets containing a high level of beta crystallinity and a process for making such sheets are disclosed herein. The polypropylene sheets comprise a resinous polymer of propylene and an effective amount of beta spherulites. Uniaxially or biaxially oriented mesh structures produced from the disclosed sheets exhibit lower density, higher strength, and higher torsional rigidity than polypropylene meshes without beta spherulites. Thus, lighter weight mesh structures which meet all of the physical property requirements for end-use applications, such as reinforcing grids to stabilize concrete and soil in civil engineering and landfill applications, are produced. The lighter weight extruded beta-nucleated sheet can also be stretched at higher line speeds, thereby reducing manufacturing costs.